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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,573	08/20/2003	Kenji Hayashi	116887	6643
26722	7590	05/27/2005	EXAMINER QUARTERMAN, KEVIN J	
OSHA LIANG/MI ONE HOUSTON CENTER SUITE 2800 HOUSTON, TX 77010			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,573

Applicant(s)

HAYASHI, KENJI

Examiner

Kevin Quarterman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) 13-21 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 2 and 4-12 is/are rejected.
7) ☒ Claim(s) 3 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0405;0205;0304;12-03
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-12, in the reply filed on 23 March 2005 is acknowledged. The traversal is on the ground(s) that the subject matter of all claims is sufficiently related that a thorough search for the subject matter of any one group of claims would encompass a search for the subject matter of the remaining claims. This is not found persuasive because the Examiner respectfully disagrees. The Examiner notes that the non-elected invention appears to be reasonably analogous to arts of manufacturing processes, such as vapor deposition and etching. Accordingly, a reasonable field of search for the non-elected invention is likely to include a search in art of manufacturing processes, which would not be required for examination of the elected invention.

2. Therefore, since the inventions of Groups I and II have been shown to be related, but patentably distinct and the undue burden to the examiner has been shown by the different classification of the inventions and the different searches required for the inventions, the requirement is still deemed proper and is therefore made FINAL.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The following title is suggested: --ELECTROLUMINESCENT DEVICE WITH BARRIER LAYER STRUCTURE, METHOD FOR MANUFACTURING THE SAME, AND ELECTRONIC APPARATUS--.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sublayer of claims 4-7 must be shown or the features canceled from the claims. No new matter should be entered.

6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claim 1 is objected to because of the following informalities: In line 4 of the claim, it appears to the Examiner that the term "to" preceding "over" should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 2, 4-6, and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Park (US Pub. 2003/0218422).
10. Regarding independent claim 1, Figure 4D of Park shows an electroluminescent device comprising first electrodes (310); electroluminescent layers (320, 330, 340) disposed over the first electrodes; a second electrode (350) disposed over the electroluminescent layers; and a barrier layer (440, 430) in contact with the second electrode, at least the surface of the second electrode facing the barrier layer including an inorganic oxide (pg. 2, ¶ [0023]), and at least the surface of the barrier layer facing the second electrode including an inorganic compound (pg. 3, ¶ [0030]).
11. Regarding claim 2, Park discloses the second electrode including indium tin oxide or indium zinc oxide (pg. 2, ¶ [0023]).

12. Regarding claim 4, Figure 4D of Park shows the barrier layer including at least one sublayer (430) composed of a silicon compound (pg. 3, ¶ [0030]).
13. Regarding claim 5, Figure 4D of Park shows the barrier layer including a sublayer (430) in contact with the second electrode, the sublayer being composed of silicon oxide (pg. 3, ¶ [0030]).
14. Regarding claim 6, Figure 4D of Park shows the barrier layer including a sublayer (430) in contact with the second electrode, the sublayer being composed of silicon nitride (pg. 3, ¶ [0030]).
15. Regarding claim 8, Figure 4D of Park shows an insulating layer (430) disposed around the second electrode, the insulating layer being composed of a silicon compound (pg. 3, ¶ [0030]).
16. Regarding claim 9, Figure 4D of Park shows a protective layer (200) that covers the barrier layer.
17. Regarding claim 10, Figure 4D of Park shows an adhesive layer (420) disposed between the barrier layer and the protective layer.
18. Regarding claim 11, Park discloses the adhesive layer including a material that is softer than that of the protective layer (pg. 2, ¶ [0023]).
19. Regarding claim 12, Park discloses an electronic apparatus comprising the electroluminescent device according to claim 1 (pg. 1, ¶ [0003]).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2879

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US Pub. 2003/0218422) in view of Ogura (US Pub. 2002/0070663).

22. Park teaches the claimed limitations of claim 4, as discussed earlier, but fails to exemplify the sublayer being composed of silicon nitride oxide.

23. Ogura teaches that it is known in the art to provide electroluminescent devices with barrier layers being composed of silicon nitride oxide for insulating other parts of the device (pg. 4, ¶ [0069]; pg. 5, ¶ [0096]).

24. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the device of Park with a sublayer composed of silicon nitride oxide, as taught by Ogura, for improving the barrier characteristics of the device.

Allowable Subject Matter

25. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

26. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record neither shows or suggests an electroluminescent device comprising, in addition to the other limitations of the claim, a second electrode covering side faces and upper faces of the electroluminescent layers.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McCormick (US Pub. 2004/0119403) discloses an organic electroluminescent device with encapsulation.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Quarterman
Examiner
Art Unit 2879

kq 
25 May 2005


Joseph Williams
Primary Examiner
Art Unit 2879